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Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Erich Kast, et al.

Serial No: 10/686,037

Filed: October 15, 2003

For: IMPLANT FOR PLACEMENT BETWEEN VERTEBRAE

Examiner: David Comstock

Art Unit: 3732

Mail Stop: Appeal Brief
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

RESPONSE TO COMMUNICATION

S I R:

In response to the communication of December 27, 2005, please take the following comments into consideration.

Applicant has reviewed the points raised by the Examiner in his communication. In response thereto applicant has attached an Amended Appeal Brief which has been revised to refer to specific figure numbers in the Summary of Claimed Subject Matter. The

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statements contained in this section of the Brief are a concise explanation of the subject matter of independent claim 1, the only independent claim on file. Applicant has also removed the statements from the Summary which the Examiner found to not be directed to claimed subject matter. Finally, the attorney of record has signed the Amended Brief.

Respectfully submitted,

By

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Dated: January 17, 2006

CERTIFICATE OF MAILING

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AMENDED BRIEF ON APPEAL

S I R:

This appeal is taken from the Final Action mailed March 23, 2005.

Real Party in Interest

The real party in interest in the above-identified

application is:

Advanced Medical Technologies AG
D-66620 Nonnweiler-Braunshausen
Germany

Related Appeals and Interferences

There are no related appeals or interferences of which
Applicants are aware regarding the above-identified application.

Status of Claims

Claims 1 and 4-12 are pending in the application. Claims 2 and 3 have been canceled. Claims 1 and 4-12 are subject to the present appeal. Claims 1, 4, 5 and 7-10 stand rejected under 35 U.S.C. 102(b) over FR 2 795 945 to Bernard et al. Claim 6 stands rejected under 35 U.S.C. 103(a) over Bernard et al. in view of U.S. Patent application publication number 2003/0125739 to Bagga et al. Claims 11 and 12 stand rejected under 35 U.S.C. 103(a) over Bernard et al. in view of U.S. Patent application publication number 2003/0028249 to Baccelli et al.

Status of Amendments After Final Rejection

A response after final was filed but no changes were made to the claims. The Examiner, in an Advisory Action stated that the "amendment(s)" would not be entered.

Summary of the Claimed Subject Matter

The claimed invention recites an implant 16 for placement between vertebrae of a spine 15. The implant 16 has a shape adapted to a depression in vertebral surfaces 17 facing the implant 16 (see page 3, lines 6-8, page 14, lines 5-10 and Fig. 7 of the specification). The implant 16 has a height that increases from a ventral side to a dorsal side of the spine to a maximum height 7 and then decreases again (see page 9, lines 7-13 and Figs. 1-4 and 6). The maximum height 7, viewed in a direction from the ventral side to the dorsal side of the spine, is located in a last third of a length of the implant (see page 9, lines 11-13 and Fig. 3).

Grounds of Rejection to be Reviewed on Appeal

The following ground is presented for review:

Whether claims 1, 4, 5 and 7-10 are anticipated under 35 U.S.C. 102(b) by Bernard et al.

Argument

The Rejection of Claims 1, 4, 5 and 7-10 under 35 U.S.C. 102(b)
over Bernard et al.:

In rejecting claims 1, 4, 5 and 7-10, the Examiner stated the following in the final rejection when rejecting the claims as being anticipated by Bernard et al.:

"Bernard discloses an implant 1 having a height that increases from a ventral side 5 to a dorsal side 4 to a maximum height and then decreases again (see Figs. 1-3). The maximum height is located in a last third of a length of the implant (see esp. Fig. 3). The implant has a height that increases from its outer extents toward a center axis in a direction perpendicular to a center axis passing through the spine from front to back. The implant is symmetrically shaped with respect to a plane that perpendicularly intersects a longitudinal axis of the spine. The implant includes projections 11. The anterior end face 5 has a generally convex shape, i.e. outwardly curving, at least when taken between the planar side walls, e.g. 2 (see Fig. 1). The implant has a hollow, cage-like configuration with wall openings 20. When viewed from above it has a frame-like configuration with an opening therein to the upper side and the lower side (see Fig.

1)." .

The reference to Bernard et al. discloses an implant in which the maximum of the implant height is near that side where the implantation tool acts from the front side of the body. Consequently, if the implant is placed in the body as intended, the maximum height of the implant is located between the vertebrae, as seen in the direction from the front side of the vertebral column toward the rear side of the vertebral column, is not located in the last third of the implant length but rather in the first third.

Accordingly, there is a significant difference between the implant according to the present invention and the implants of the prior art. It is submitted that the cited prior art does not disclose the presently claimed invention and furthermore does not render obvious to place the maximum implant height from the first third of the implant length to the last third of the implant length in order to improve the adjustment of the implant to the anatomy of the vertebrae.

Also, Bernard et al. disclose an implant that fills out the entire intermediate space between two vertebrae, not only a half-

space as in the presently claimed invention. An implant as disclosed by Bernard et al. can only be implanted from the front or obliquely from the front with the patient lying on his/her back or on the side.

Contrary to the examiner's interpretation, reference numeral 4 in the implant described by Bernard et al. refers to the side facing the front or chest and reference numeral 5 refers to the rear side facing the back. The maximum of the height is somewhat outside of the middle of the half facing the chest, not in the last third facing the chest.

In the implant of the present invention the maximum height is located in the last third which faces the back.

However, even if the maximum of the implant described by Bernard et al. were to be located in the last third facing the chest, and this implant would then have structural features similar to those of the implant according to the present invention, the reference does not disclose and cannot render obvious the present invention as claimed. The structural features of such implants can under no circumstances be taken into consideration separately from the intended implant location. The

structural features of the implant described by Bernard et al. clearly do not display the technical teaching of the present invention which resides in that the maximum of the implant height is to be located in the last third which fasces the back.

The reference to Bernard et al. does not contain any indication concerning an implant that can be implanted turned by 180° in order to achieve advantages obtained by the present invention.

In this regard, it is submitted that the implant of the reference cannot be implanted turned by 180°. Because of its width, the implant can only be inserted from the chest side between two vertebrae. The seats 20, 23 for an implanting tool are only constructed in such a way that the implant can be inserted with the wall 5 facing forward.

With the presently claimed invention the stress produced by the implant on the vertebrae to be joined is reduced by the substantial adaptation of the shape of the implant to the shape of the surface of the vertebral body. Additionally, this shape adaptation contributes to the positional stability of the implant

between the vertebrae. Both factors ultimately promote rapid growth of the bony tissue joining the vertebrae and thus the healing process after a diskectomy. This reduces the strength requirements for the support devices necessary during the growth of the tissue joining the vertebrae. A construction which provides these benefits is not disclosed by Bernard et al.

Thus, it is submitted that Bernard et al. do not disclose the claimed invention.

Conclusion

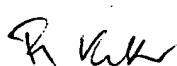
Accordingly, in view of the above considerations, it is Applicant's position that the Examiner's rejection of claims 1, 4, 5 and 7-10 under 35 U.S.C. 102(b) over Bernard et al. is in error and should be reversed. Also, since dependent claims 6, 11 and 12 share the allowable features of claim 1, it is applicants position that the rejections of claims 6, 11 and 12 under 35 U.S.C. 103 (a) are also in error and should be reversed.

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The amount of \$250.00 to cover the fee for filing an appeal brief was previously paid. Any additional fees or charges required at this time in connection with this application should be charged to Patent and Trademark Office Deposit Account No. 11-1835.

Respectfully submitted,

By



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Claims Appendix

1. An implant for placement between vertebrae of a spine, wherein the implant has a shape adapted to a depression in vertebral surfaces facing the implant, wherein the implant has a height that increases from a ventral side to a dorsal side of the spine to a maximum height and then decreases again, and wherein the maximum height, viewed in a direction from the ventral side to the dorsal side of the spine, is located in a last third of a length of the implant.

4. The implant in accordance with claim 1, wherein the implant has a height that increases towards the center axis in a direction perpendicular to a center axis passing through the spine from front to back.

5. The implant in accordance with claim 1, wherein the implant is symmetrically shaped with respect to a plane that perpendicularly intersects a longitudinal axis of the spine.

6. The implant in accordance with claim 1, wherein the implant is configured to be placeable in a half-space of an

intervertebral space together with another implant having mirror symmetry with respect to the first implant.

7. The implant in accordance with claim 1, wherein the implant has projections arranged and configured to fix the implant in the bony tissue of the vertebrae.

8. The implant in accordance with claim 1, wherein the implant has an anterior end face, with respect to a direction of implantation, that has a convex curvature towards the front.

9. The implant in accordance with claim 1, wherein the implant the implant has a hollow, cage-like configuration with wall openings.

10. The implant in accordance with claim 1, wherein the implant the implant, as viewed from above, has a frame-like configuration with an opening in the frame that is open to an upper side and a lower side.

11. The implant in accordance with claim 1, wherein the implant consists of a plastic preferably PEEK.

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12. The implant in accordance with claim 11, wherein the implant consists of PEEK.

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Evidence Appendix

N.A.

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Related Proceedings Appendix

There are no related proceedings.